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Remarks

The Examiner has objected to the abstract. In addressing this objection the Applicant has amended the abstract as indicated. Review and acceptance is requested.

The Examiner has objected to incorporation of reference of the priority document in the specification as being essential material. In addressing this objection, the Applicant has removed the incorporation by reference portion in the first paragraph on page 1. Review and acceptance is requested.

Claims 1 and 4 through 8 stand rejected under 35 USC 102(b) as being clearly anticipated by November (US 2,823,702). Claims 2, 3, 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over November and claims 9, 10 and 11 are rejected under 35 USC 103(a) as being unpatentable over November in view of Dahn (US 4,458,722).

In addressing these rejections, the Applicant has amended claim 1 to include the limitations of former claim 6 which has consequently been cancelled. Claims 2 through 5 remain unchanged as do claims 7 through 13. In addition, the Applicant has added new claim 14 corresponding to the limitations of former claim 1 with the additional limitation of former claim 9. New claims 15 through 18 correspond to former claims 2 through 5 and new claims 19 and 20 to former claims 7 and 8. New claims 21 to 24 correspond to former claims 10 through 13, respectively. These amendments have been taken because the Applicant believes none of the prior art of record to disclose the limitations of former claims 6 and 9 as argued in detail below.

Before proceeding with a detailed argument in support of the amendments, the Applicant would like to draw the Examiner's attention to

MPEP 2111.01. In particular, the words of a claim must be given their plain meaning unless they are clearly defined in the specification. Moreover, the Applicant is entitled to be its own lexicographer (MPEP 2111.01 last paragraph). In the particular case at hand, the Applicant believes the Examiner has not given proper definition to the terms "inner and outer radius" in new claim 1 and former claim 6 as well as to the recitation of the "straight sections" in former claim 9 and new claim 14. The term "inner radius" has been defined by reference symbol r as illustrated in figure 2 and the associated specification paragraphs. The term "outer radius" is defined by reference symbol R , also visible in figure 2 and the associated portions of the specification. The term "straight sections" has been defined as reference symbol 4 as indicated in the specification and in figure 2. In subsequent examination of this case, the Examiner is respectfully requested to utilize the specific definitions of the terms recited in the claims for the basis of further examination.

The November document discloses a convoluted metal hose for use under conditions of extremely high internal pressure. The hose is intended to remain flexible when loaded with such high internal pressures. No suggestion is made in US 2,823,702 for use of that hose as a bending pipe element for return pipes in internal combustion automobile engines. November discloses a hose with two sets of undulations having different outer diameters. The two sets of undulations are disposed one behind the other in a longitudinal direction of the hose such that an undulation from one of the two sets of undulations is always interposed between a pair of undulations from the other one of the two sets of undulations.

However, November fails to disclose the last features of amended claim 1 and new claim 14, respectively, according to which

said first and said second set of undulations have an approximately equal inner and outer radius

and

straight sections are disposed in the unbent pipe element between the inner and outer radius of said approximately circular-segment shaped first and second sets of undulations,

respectively.

As can be clearly seen from figure 3 of cited document US 2,823,702, November discloses a hose with two sets of undulations of different radii. Clearly, the inner radius of the set of undulations having larger outer diameter is much greater than all of the remaining inner and outer radii of the two sets of undulations. Concerning new claim 14, November does not disclose straight sections between these inner and outer radii, rather shows curved walls between the inner and outer radii (see Figs. 3 and 4).

Therefore, the subject matter of the application based on amended claim 1 and new claim 14 is not anticipated with respect to the disclosure of cited document US 2,823,702. Since claim 4 is directly dependent from claim 1, the subject matter contained is also novel with respect to that cited prior art (US 2,823,702). The same holds for dependent claims 5, 7 and 8, which are dependent on claim 4. New claims 14 - 24 are directly or indirectly dependent on new claim 14 and must therefore also be considered as non-anticipated.

The above mentioned claims in the instant application as well as additional claims 2, 3, 12 and 13 are also non-obvious with respect to the disclosure of November. Nothing in cited document US 2,823,702 suggests to a person skilled in the art that he or she should devise a bending metal pipe element with all of the features of independent claims 1 and 14, since the '702 document is particularly concerned with the special geometry of its

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undulations necessary to withstand the high pressures to which the disclosed metal hose is to be subjected. Especially in connection with figure 4 of November, it is pointed out that the objects of the November invention are met only because of the special geometry of the undulations. In particular, providing straight sections of pipe between the inner and outer radii is explicitly out ruled in US 2,823,702. In fact, such a configuration is explicitly referred to as "mis-shaped" (column 2, lines 9 to 12). Therefore, a person skilled in the art would not rely on the teaching of US 2,823,702 when devising a bending pipe element as claimed by the Applicant, since the object of the instant invention is not to withstand high pressures but to develop a pipe element which ensures the largest possible bending angle without overextending the pipe material to thereby avoid damage to the pipe.

Claims 9 (equivalent to new claim 14), 10, and 11 are rejected as being unpatentable over November in view of US 4,458,722 (Dahn). On page 5, the Examiner cites Dahn as disclosing straight sections of pipe being disposed in an unbent pipe element between the inner and outer radii of approximately circular-segment shaped first and second sets of undulations. Dahn discloses a corrugated tube with one set of corrugations only. Reference numerals 25, 26 referred to the by Examiner as indicating straight sections of pipe between the inner and outer radii are in fact only cylindrical sleeves (not referred to in the description of US 4,458,722) used for attaching the disclosed corrugated tube, e.g. to other tube elements. Therefore, the combination of the teachings of US 2,823,702 and US 4,458,722 does not lead a person skilled in the art to fashion a bending pipe element as claimed in claim 9 of the instant application.


This reasoning also holds for dependent claim 10, which is directly dependent on amended claim 1. The remaining dependent claims of record inherit the limitations for their respective base claims and are

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therefore also distinguished from the prior art of record for the reasons given.

The Applicant believes all claims of record to be allowable for the reasons given. Review, acceptance, and passage to issuance is therefore requested. No new matter has been added in this amendment.

Respectfully submitted,



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